



Characterizing the peritumoral brain zone in glioblastoma: a multidisciplinary analysis.

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Résumé en anglais	<p>Glioblastoma (GB) is the most frequent and aggressive type of primary brain tumor. Recurrences are mostly located at the margin of the resection cavity in the peritumoral brain zone (PBZ). Although it is widely believed that infiltrative tumor cells in this zone are responsible for GB recurrence, few studies have examined this zone. In this study, we analyzed PBZ left after surgery with a variety of techniques including radiology, histopathology, flow cytometry, genomic, transcriptomic, proteomic, and primary cell cultures. The resulting PBZ profiles were compared with those of the GB tumor zone and normal brain samples to identify characteristics specific to the PBZ. We found that tumor cell infiltration detected by standard histological analysis was present in almost one third of PBZ taken from an area that was considered normal both on standard MRI and by the neurosurgeon under an operating microscope. The panel of techniques used in this study show that the PBZ, similar to the tumor zone itself, is characterized by substantial inter-patient heterogeneity, which makes it difficult to identify representative markers. Nevertheless, we identified specific alterations in the PBZ such as the presence of selected tumor clones and stromal cells with tumorigenic and angiogenic properties. The study of GB-PBZ is a growing field of interest and this region needs to be characterized further. This will facilitate the development of new, targeted therapies for patients with GB and the development of approaches to refine the per-operative evaluation of the PBZ to optimize the surgical resection of the tumor.</p>
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- [1] [http://okina.univ-angers.fr/publications?f\[author\]=7003](http://okina.univ-angers.fr/publications?f[author]=7003)
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